

REMARKS

This application has been carefully reviewed in light of the Office Action dated June 28, 2007. Claims 1 to 8 and 10 to 16 are pending in the application, of which Claims 1, 8, 10, 11 and 16 are independent. Reconsideration and further examination are respectfully requested.

The drawings were objected to for allegedly failing to depict every feature specified in the claims. In particular, the Examiner alleges that the drawings do not show Claim 1's corrector, processor, or recorder, or Claim 6's thumbnail image. Applicants respectfully submit that Claim 1's corrector, processor and recorder correspond to effect processor 100 (of Fig. 3), quantization processor 120 (of Fig. 3), and ink-jet print head 5 (of Fig. 1), respectively. Furthermore, thumbnail image of Claim 6 does not need to be depicted in the drawings, since it is not a "structural detail" of the invention. See MPEP § 608.02(d). Accordingly, Applicants respectfully request reconsideration and withdrawal of this objection.

Claim 10 was rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. In particular, the Examiner asserts that the phrase "computer program product storing a computer readable medium" is unclear. Furthermore, Claims 9 and 10 were rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter, and in particular for being directed to functional descriptive material not embodied on a computer-readable medium. Without conceding the correctness of the rejections, Applicants have canceled Claim 9 without prejudice or disclaimer of subject matter and amended Claim 10 to clarify that it is directed to a computer-readable medium storing a computer-executable program. Accordingly, Applicants respectfully request reconsideration and withdrawal of these rejections.

Claims 1 to 3 and 5 to 11 have been rejected under 35 U.S.C. § 102(b) over U.S. Published Appln. No. 2001/0013953 (Uekusa). Claim 4 has been rejected under 35 U.S.C. § 103(a) over Uekusa in view of U.S. Patent No. 6,980,326 (Tsuchiya). Reconsideration and withdrawal of this rejection are respectfully requested.

The present invention concerns reducing the capacity of an internal memory used in image processing and implemented in an apparatus such as a printer so as to reduce the manufacturing cost of the apparatus. To do so, a feature amount of an entire image data is acquired from data stored in a memory area (for example, a part of the internal memory) and then the memory area is released, before a first correction according to the feature amount and a second correction which is different from the first correction are applied to an image stored in the memory area corresponding to the entire image data. Alternatively, an interface inputs at least partial image data of a selected image from a memory card, and the amount of the characteristic is extracted from the input image data before the first and second processes are performed on image data in a band or block unit of the selected image using a band or block memory. In other words, in the present invention, even if capacity of the internal memory of the apparatus is small, the acquisition (or extraction) of the feature amount and the first and second corrections (or processes) can be performed by efficiently using the internal memory.

Turning to specific claim language, amended independent Claim 1 is directed to an image processing apparatus which includes a corrector, arranged to apply, to image data stored in a memory area, a first correction according to a feature amount of an entire image, and a second correction which is different from the first correction; a processor, arranged to apply an image process required to print on a print medium to the image data output from the corrector; and a recorder, arranged to print an image on the print medium based on the image data output

from the processor. The corrector acquires the feature amount from data stored in the memory area and then releases the memory area, before execution of the first correction and before execution of the second correction is completed for the entire image data.

In contrast, Uekusa discloses a printer driver 103 on a host computer 100. The printer driver 103 acquires information for image correction by analyzing print data and performs a color matching process on the print data based on the acquired information. Since the printer driver 103 is operated on the host computer 100, it can utilize the full capacity of a memory (RAM 109 shown in Fig. 1) which can be handled by the printer driver 103. Therefore, there is no necessity that the memory, which has been used in the acquisition (or extraction) of the feature amount of an image, to be released before image processing is applied to the image stored in the memory. Therefore, as the memory resources available to the printer driver of Uekusa are more than sufficient to hold an image, Uekusa fails to discuss or disclose the image processing and memory management system of the present invention, namely a recorder, arranged to print an image on the print medium based on the image data output from said processor, wherein said corrector acquires the feature amount from data stored in the memory area and then releases the memory area, before execution of the first correction and before execution of the second correction is completed for the entire image data.

In light of the deficiencies of Uekusa as discussed above, Applicants submit that amended independent Claim 1 is now in condition for allowance and respectfully requests same.

Independent Claims 8, 10, 11 and 16 are directed to a method, computer-readable medium, a printer and an inkjet printer, respectively, substantially in accordance with the apparatus of Claim 1. Accordingly, Applicant submits that Claims 8, 10, 11 and 16 are also now in condition for allowance and respectfully requests same.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore believed allowable for at least the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention; however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

CONCLUSION

No claim fees are believed due; however, should it be determined that additional claim fees are required, the Director is hereby authorized to charge such fees to Deposit Account 50-3939.

Applicants' undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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